



1/25

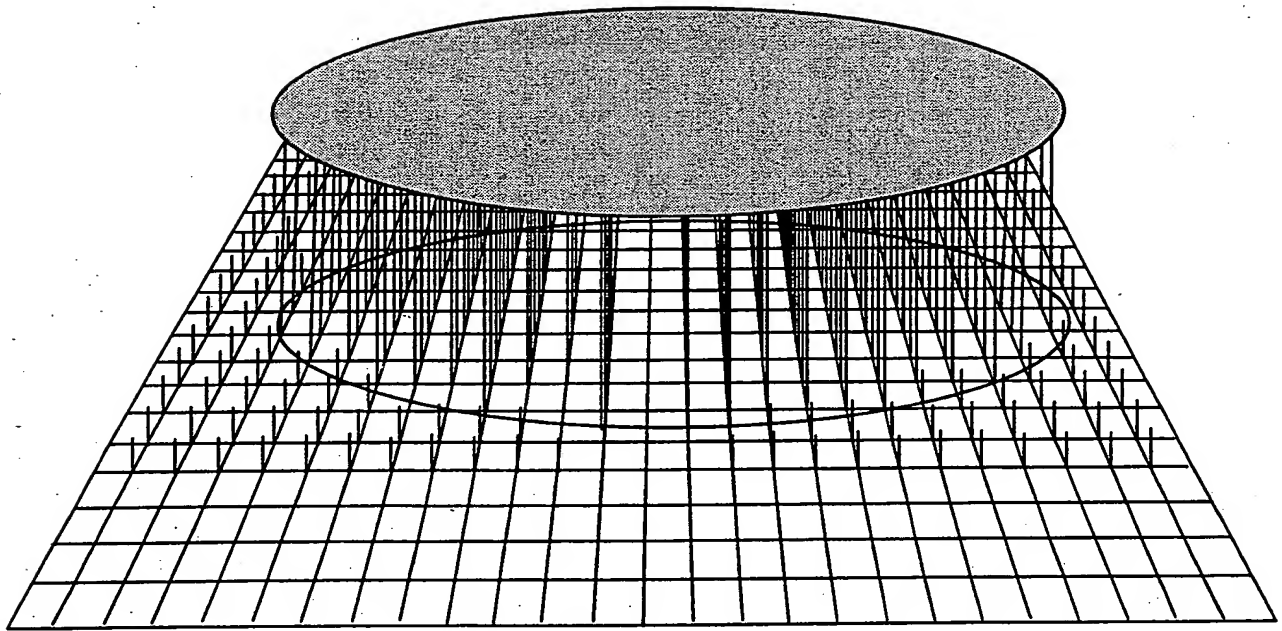


Fig. 1

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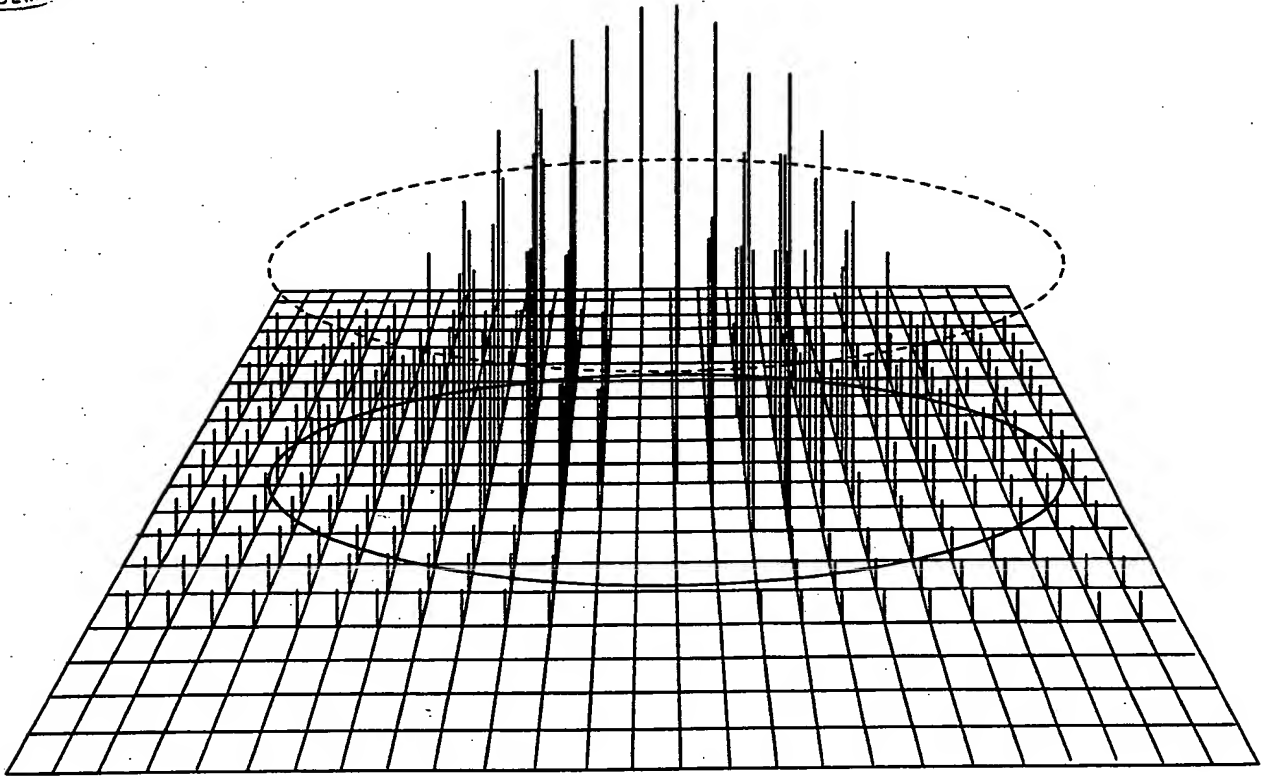


Fig. 2



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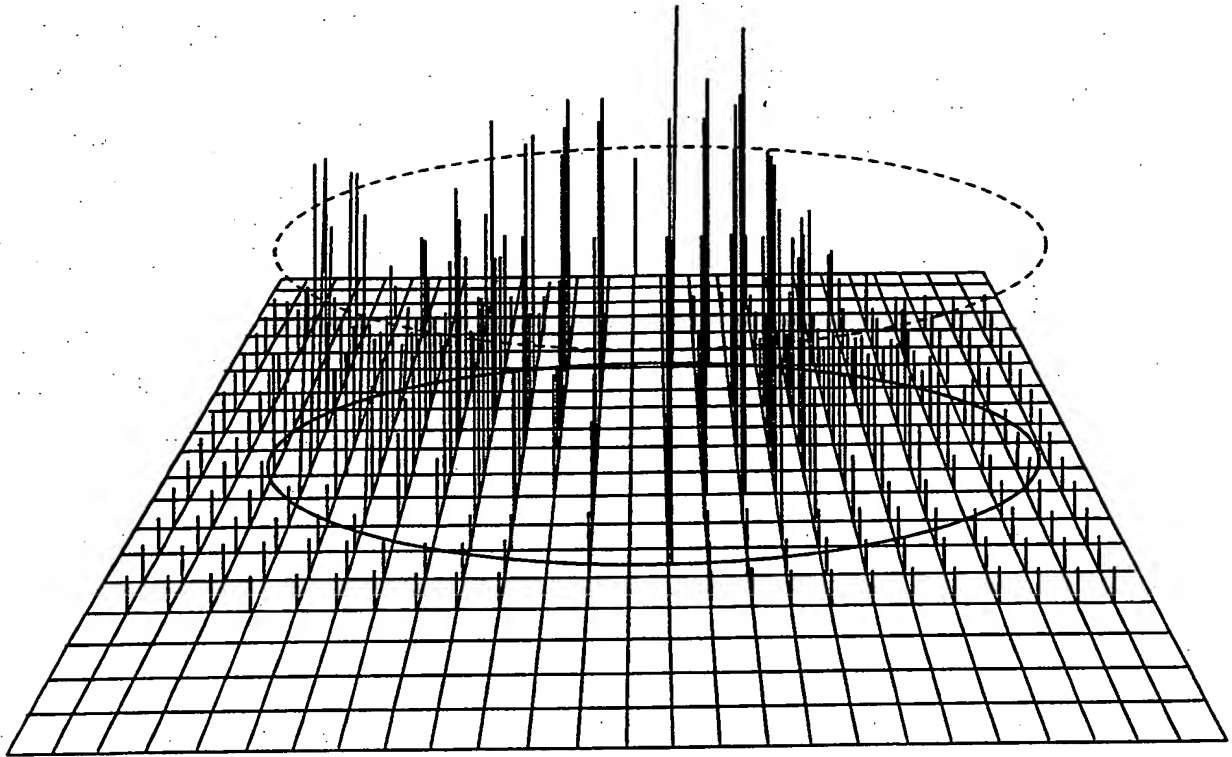


Fig. 3



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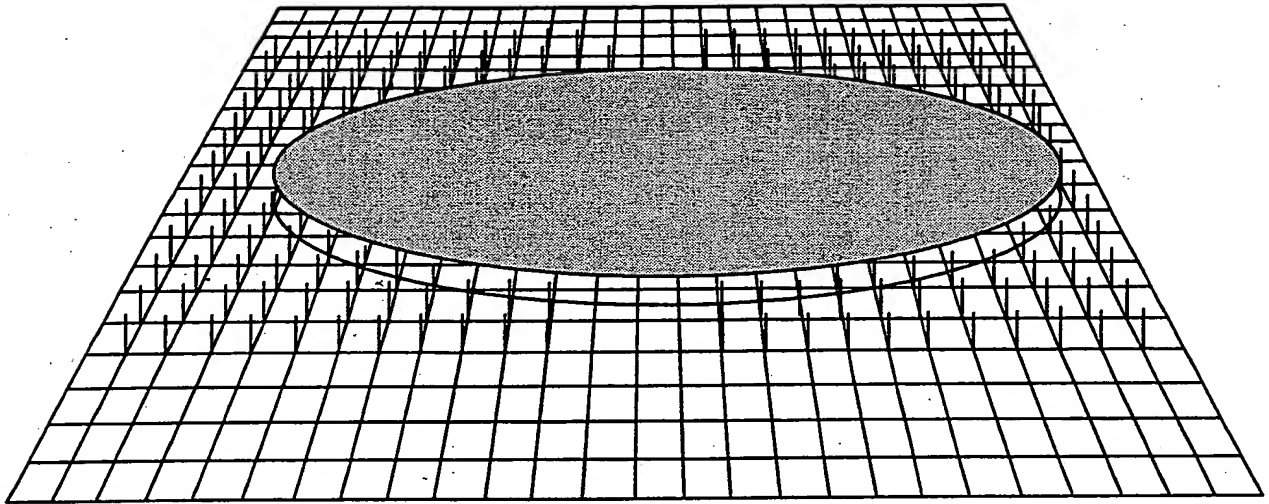


Fig. 4

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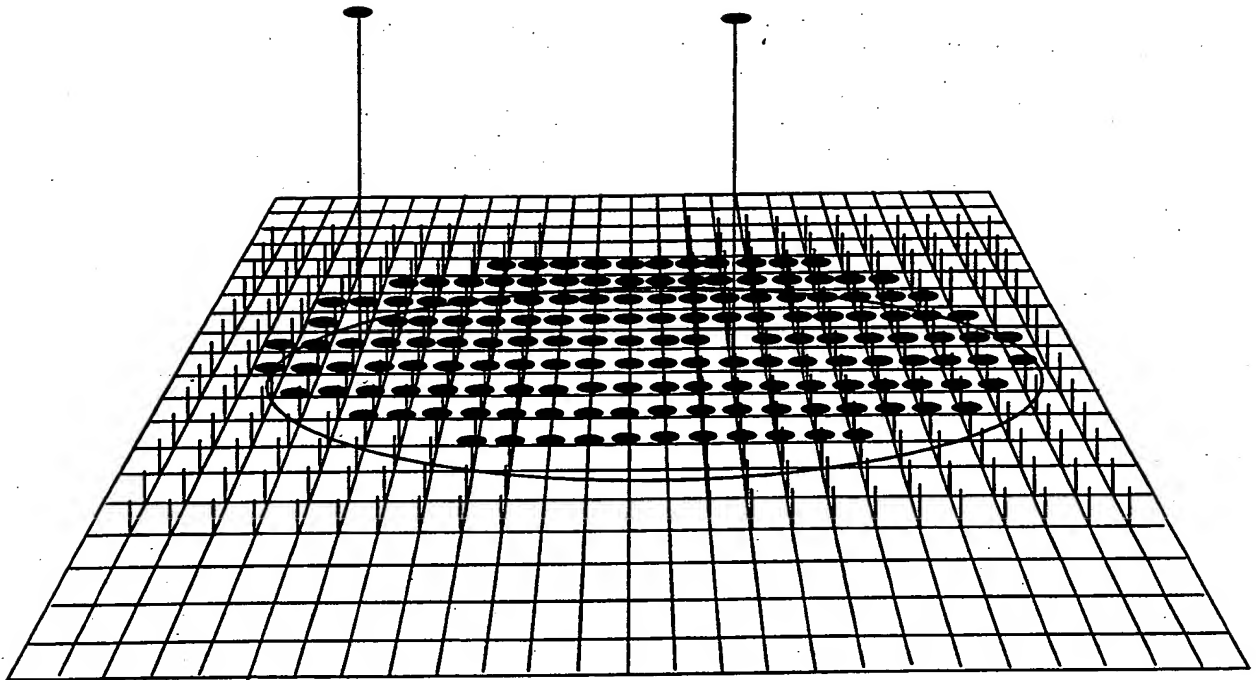


Fig. 5



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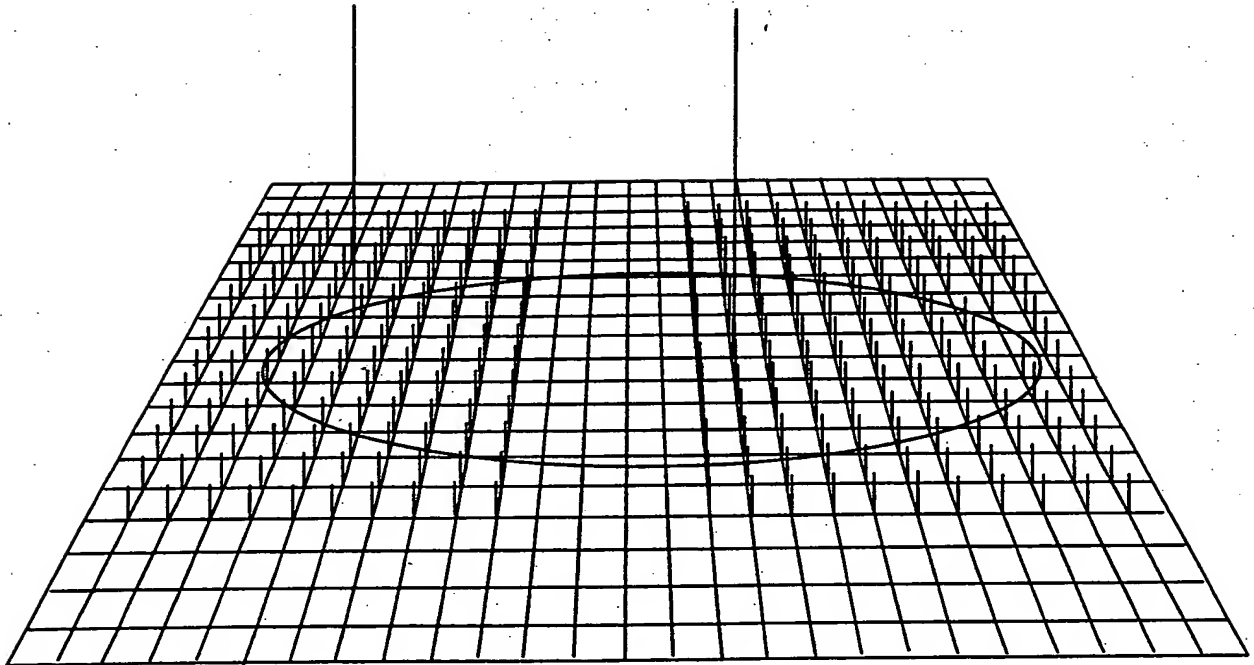


Fig. 6

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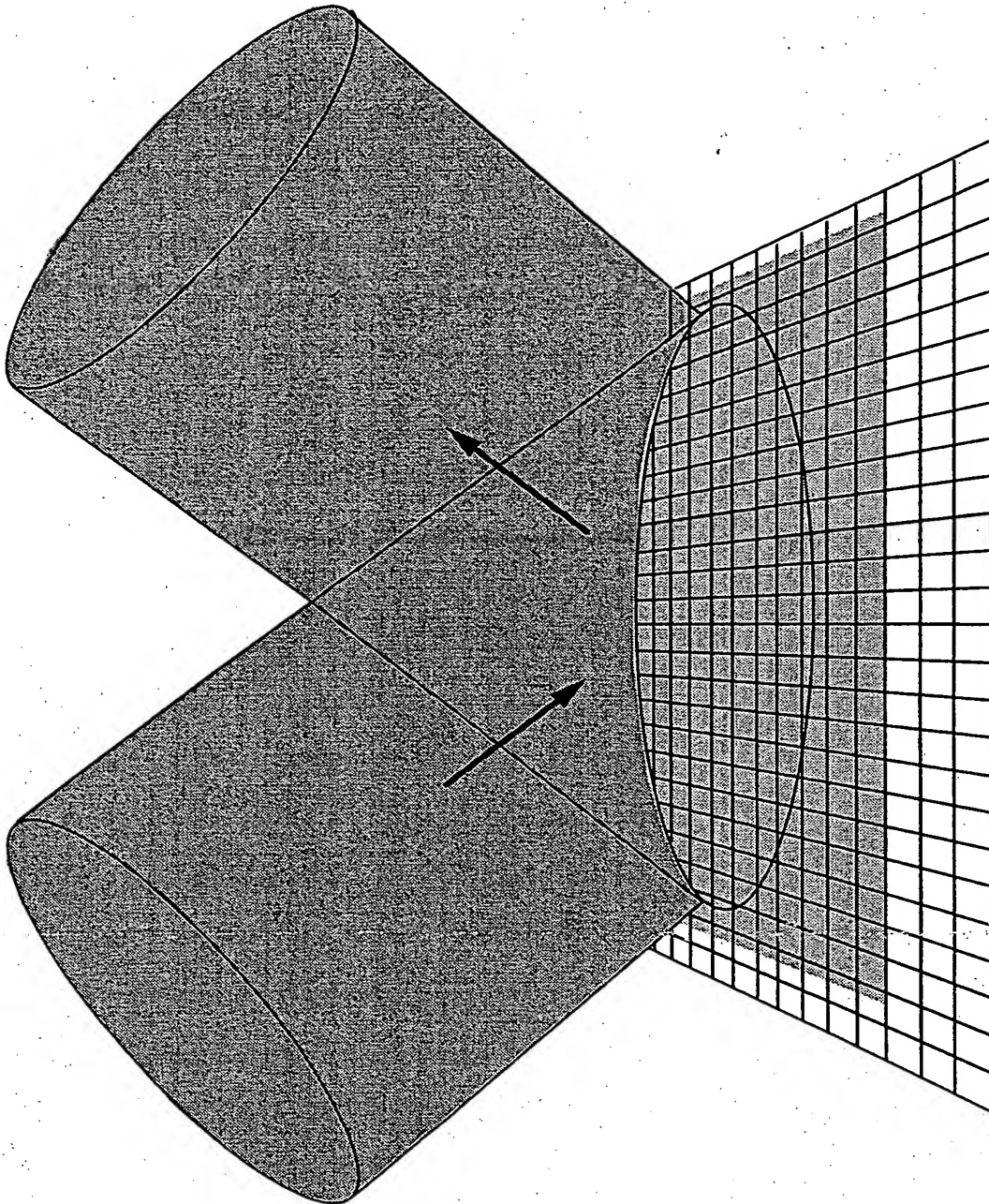


Fig. 7

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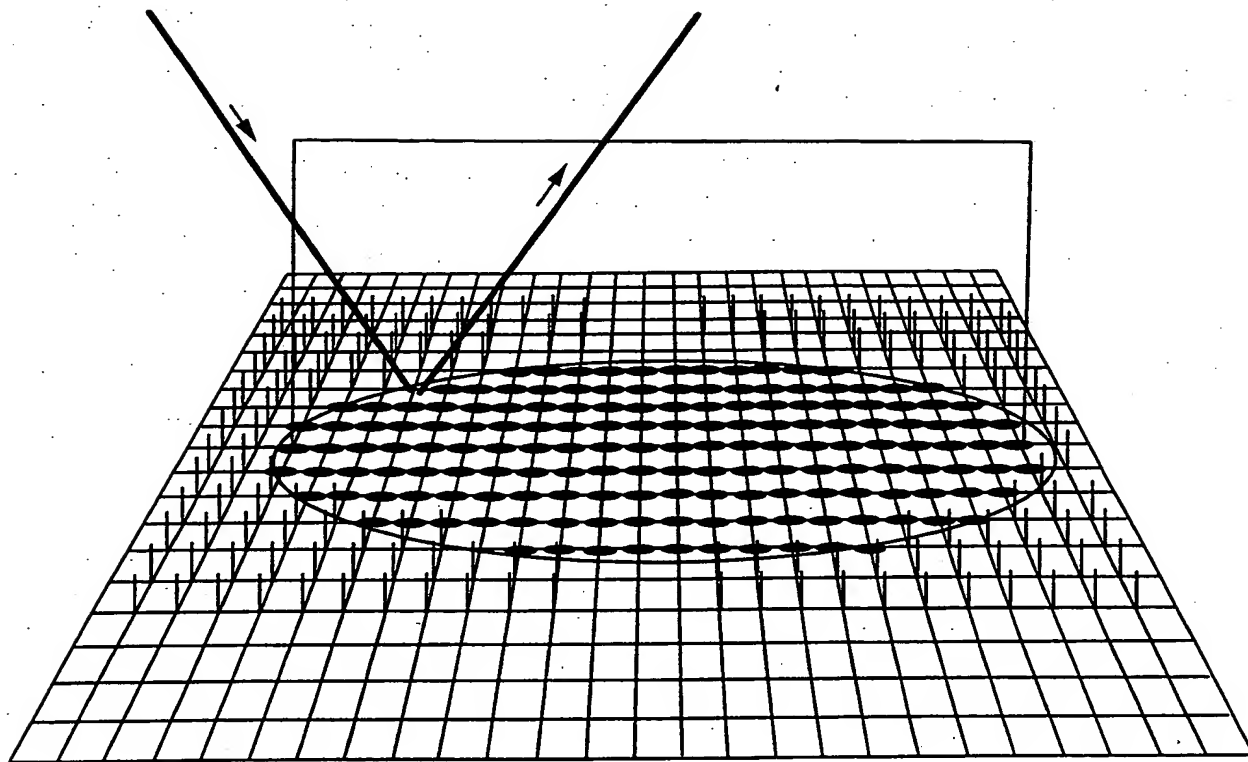


Fig. 8



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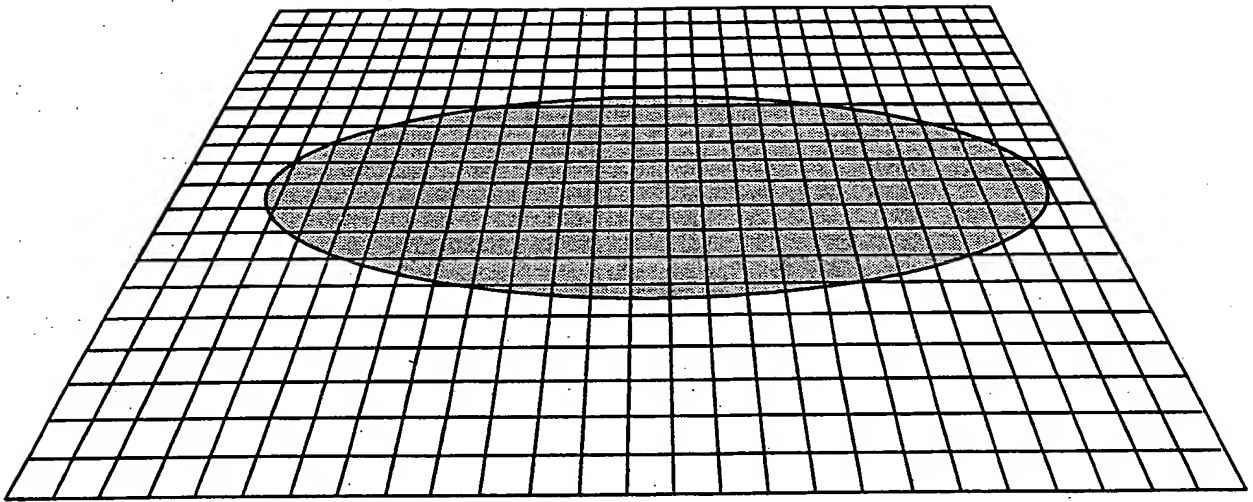


Fig. 9



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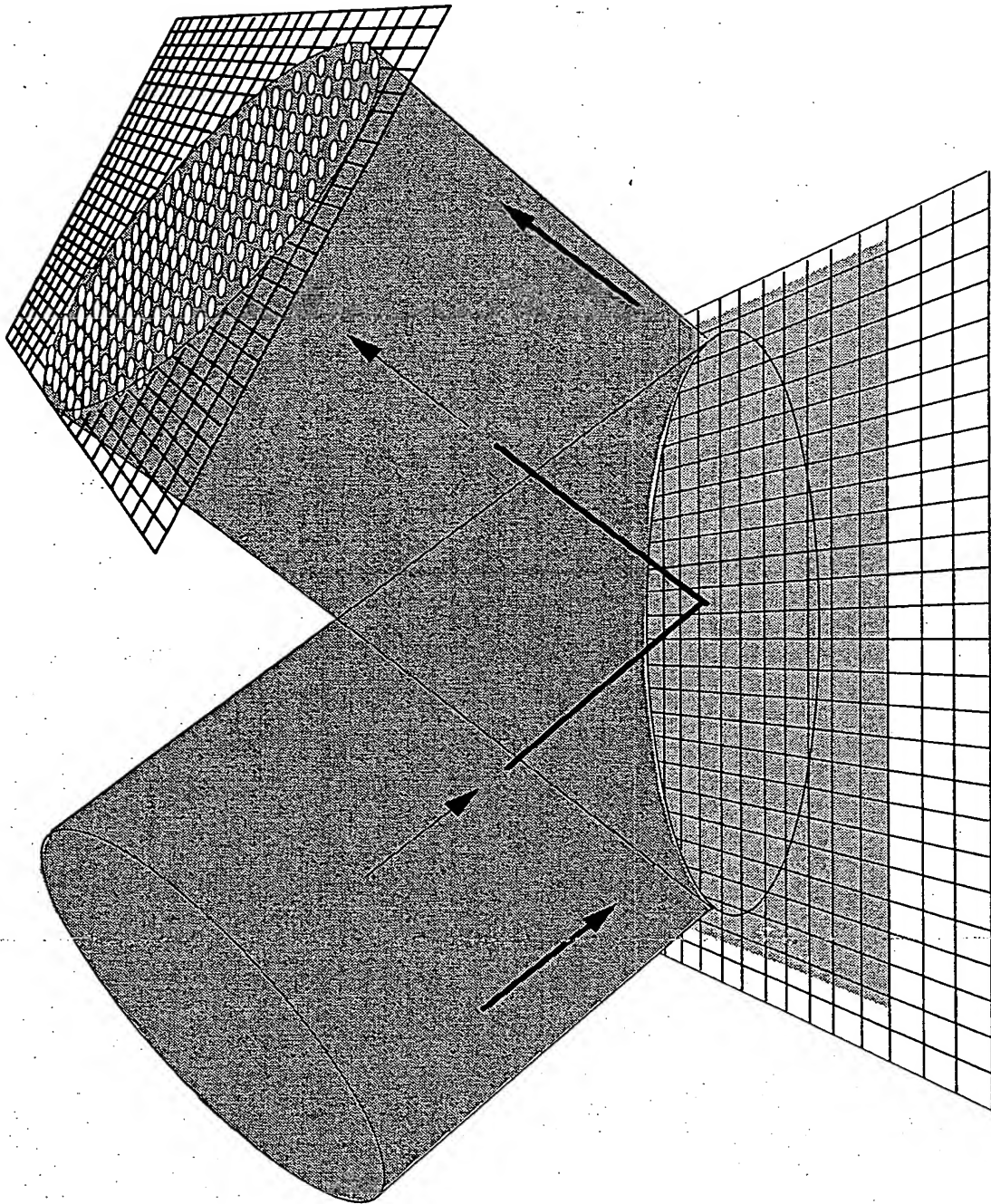


Fig. 10



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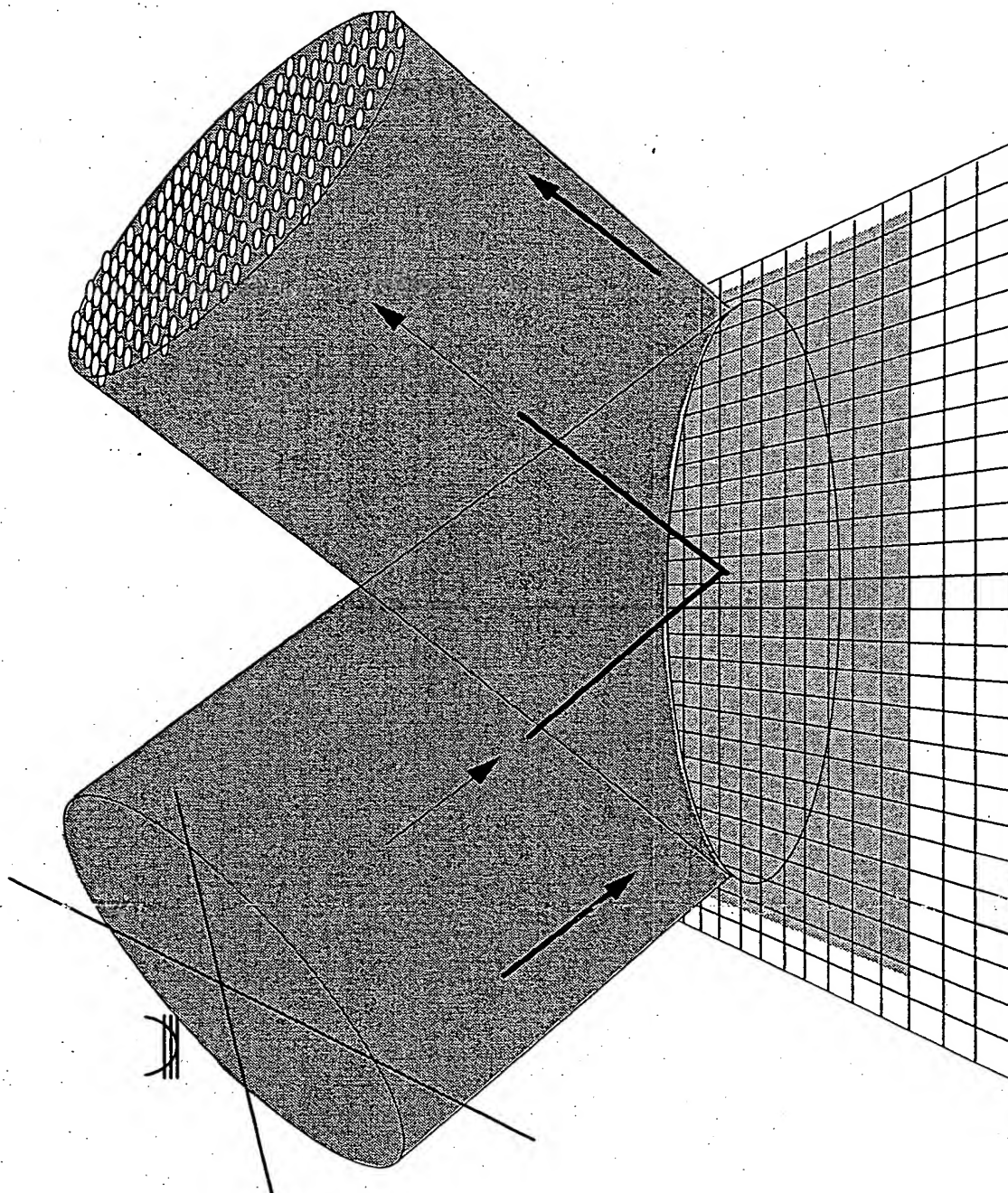


Fig. 11



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Examples of Optical Signal Formats

Principle	Label Type	Instrument	DDx Status
SCATTER	POLYMER BEADS/PARTICLES SILICA BEADS/PARTICLES MAGNETIC BEADS/PARTICLES METAL BEADS/PARTICLES METAL COATED BEADS/PARTICLES	SCATTEROMETRY	DEMONSTRATED
OPTICAL ABSORPTION	COLLOIDAL GOLD MAGNETIC BEADS	REFLECTOMETRY PHOTOMETRY	SCHEDULED
CHANGE IN POLARIZATION STATE	POLYMER BEADS SILICA BEADS	ELLIPSOMETRY (WITH COMPENSATOR) POLARIMETRY (W/OUT COMPENSATOR)	SCHEDULED
CHANGE IN REFRACTIVE INDEX	HIGH REFRACTIVE INDEX OR OPTICALLY ACTIVE MATERIALS	ELLIPSOMETRY (WITH COMPENSATOR) POLARIMETRY (W/OUT COMPENSATOR)	SCHEDULED
CHIRAL EFFECTS	AZIO DYES CHIRAL COMPOUNDS		ENVISIONED
DIFFRACTION EFFECTS	PATTERNED SURFACE	INTERFEROMETRY	ENVISIONED
SPECTROSCOPIC EFFECTS	WAVELENGTH SELECTIVE MATERIALS	SPECTROMETER	ENVISIONED

FIG. 12



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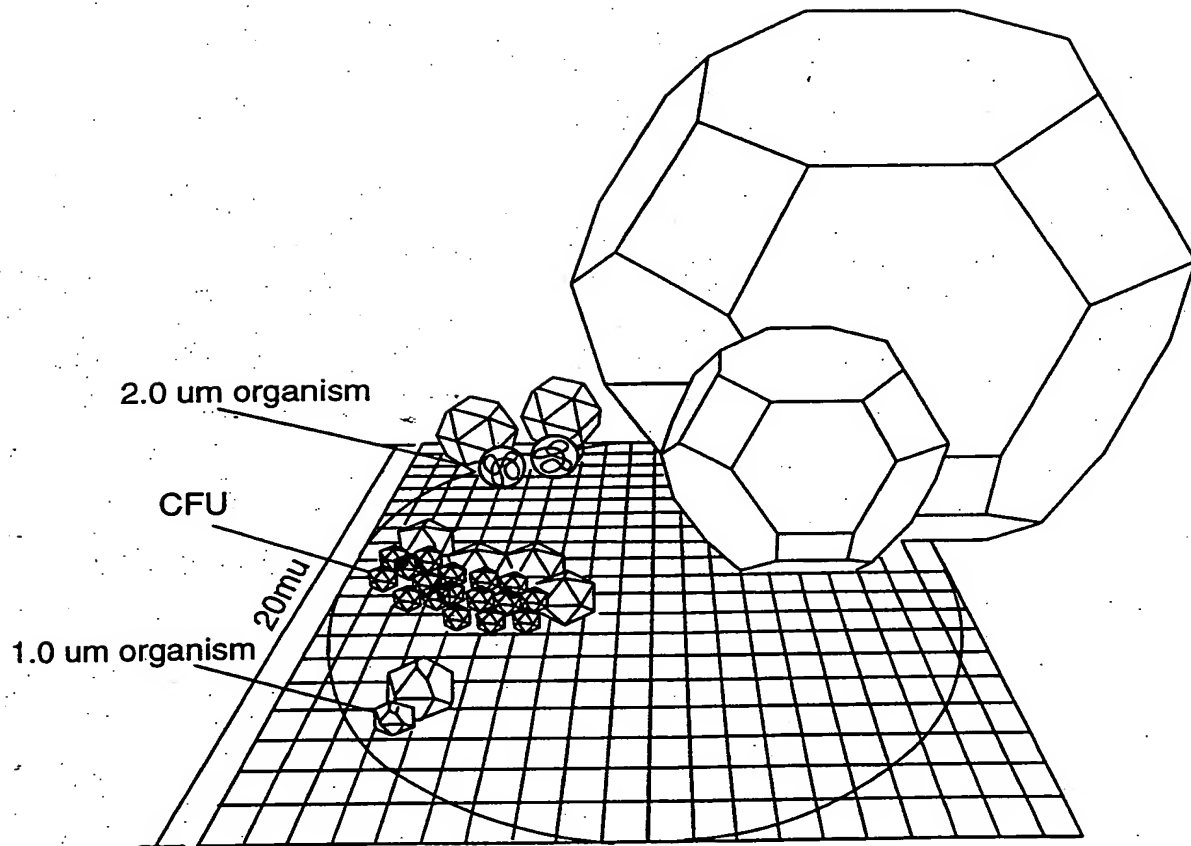


Fig. 13



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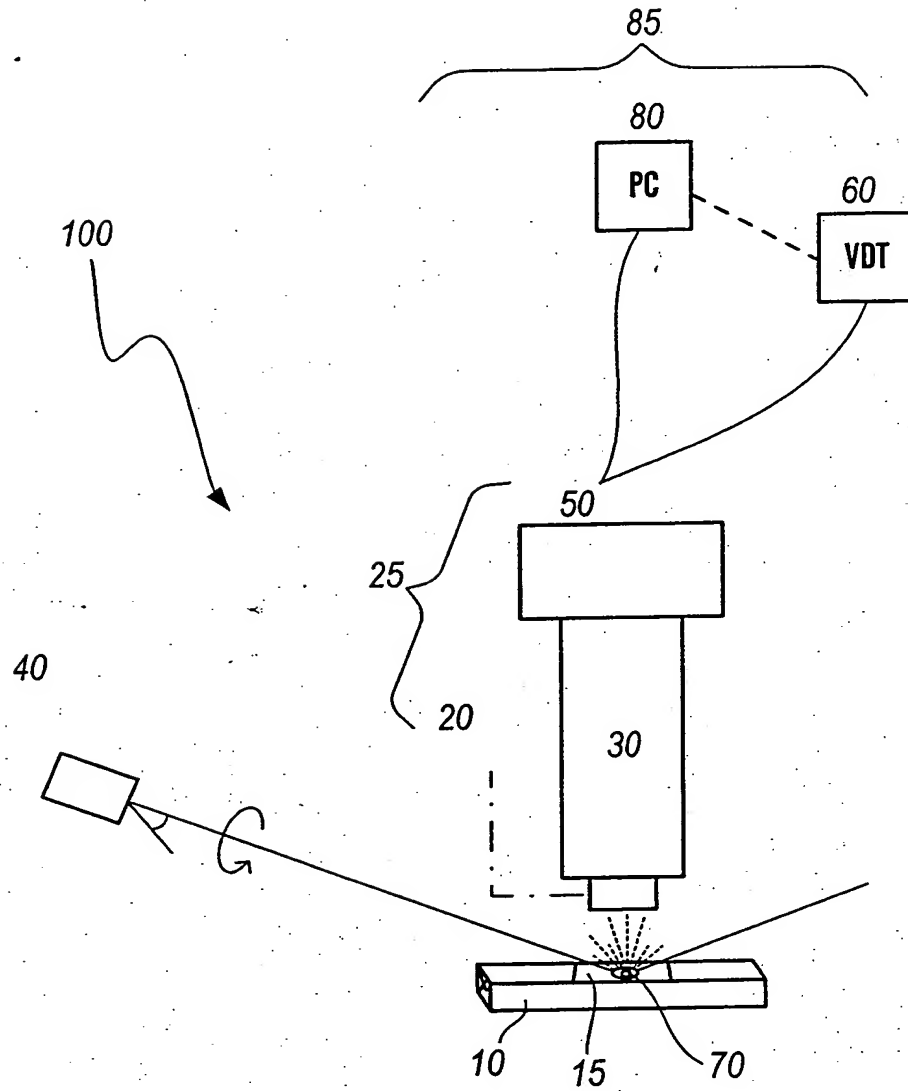


FIG. 14

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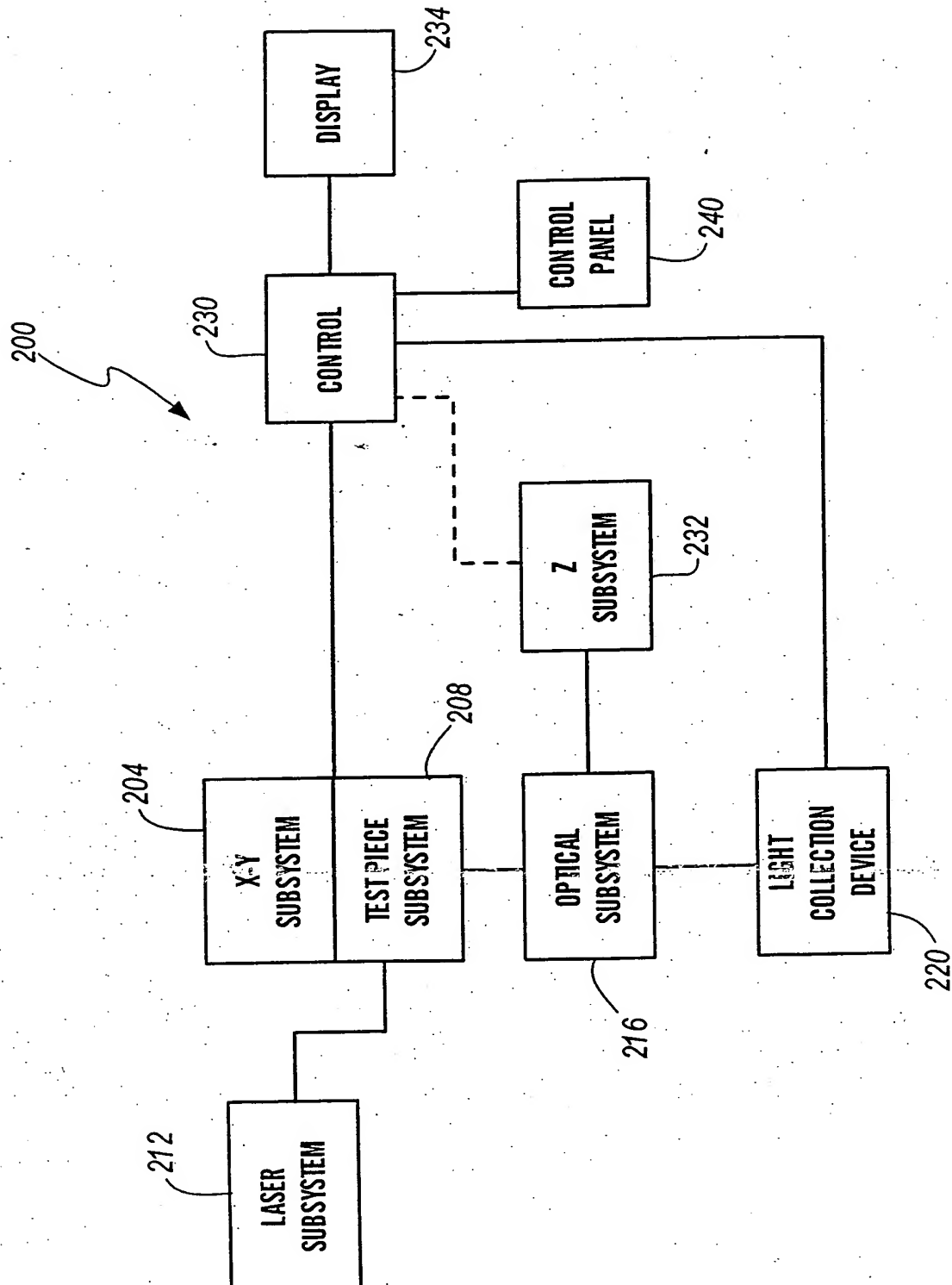


FIG. 15

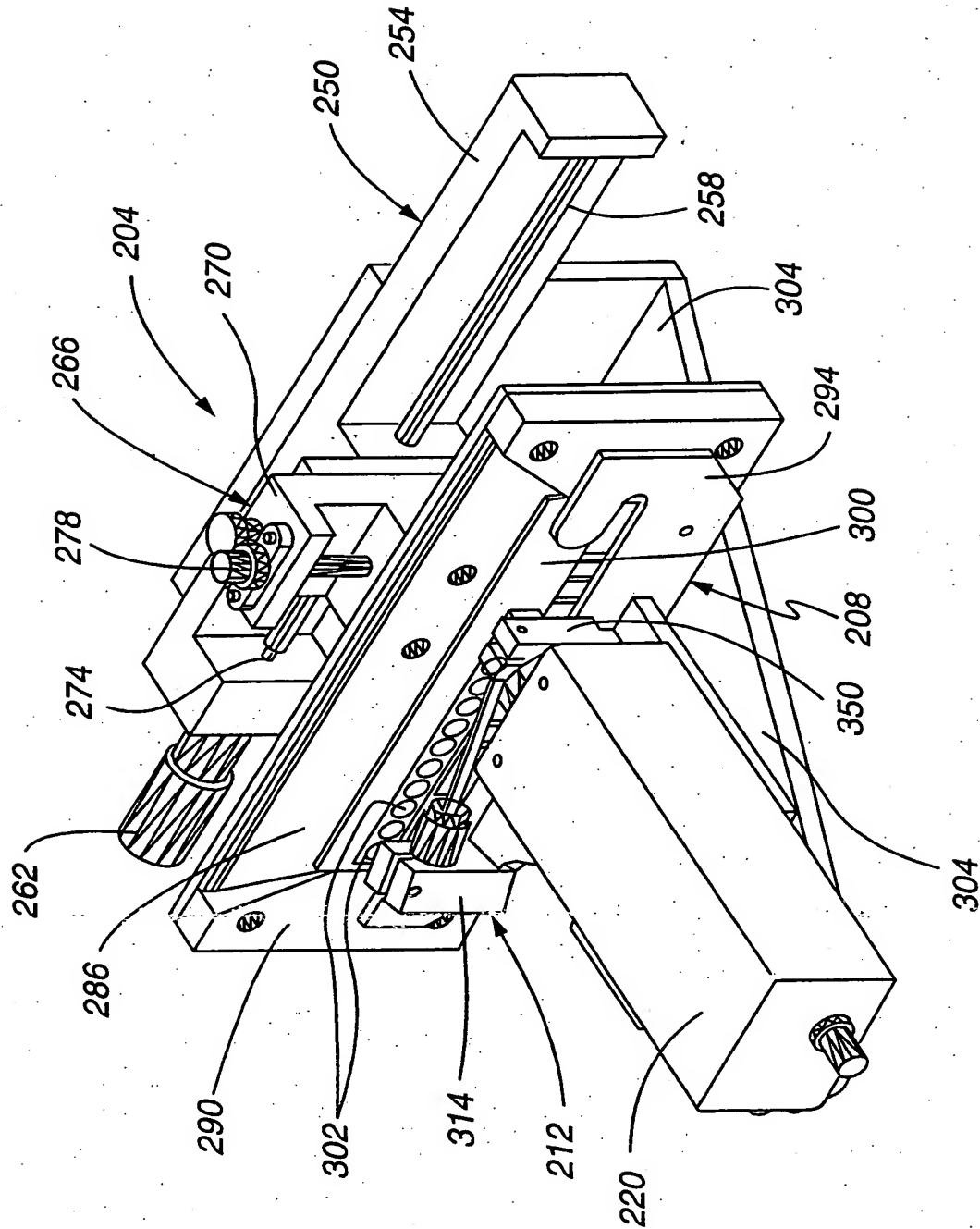


Fig. 16



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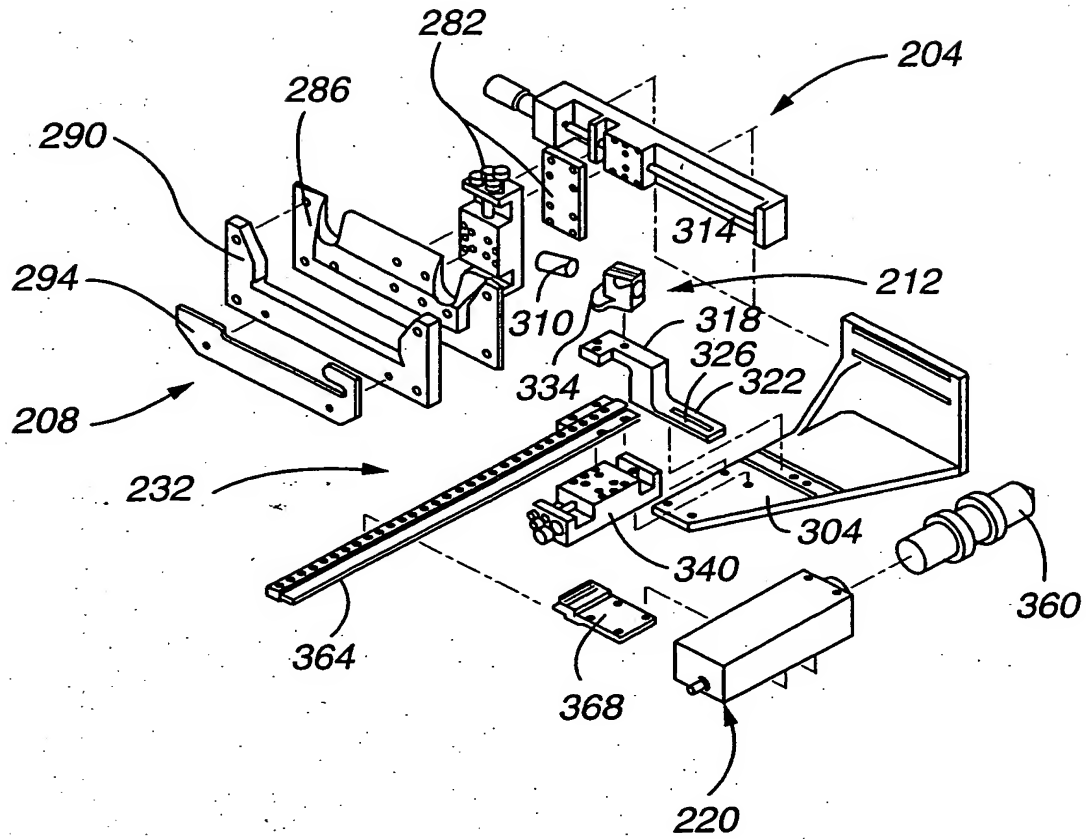


Fig. 17



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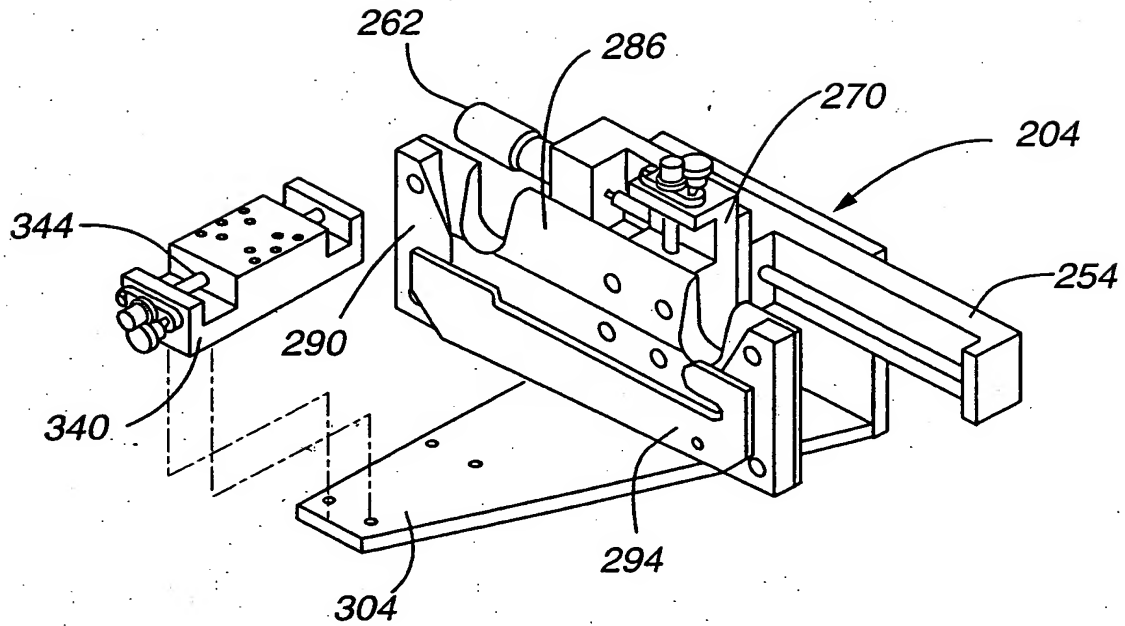


FIG. 18



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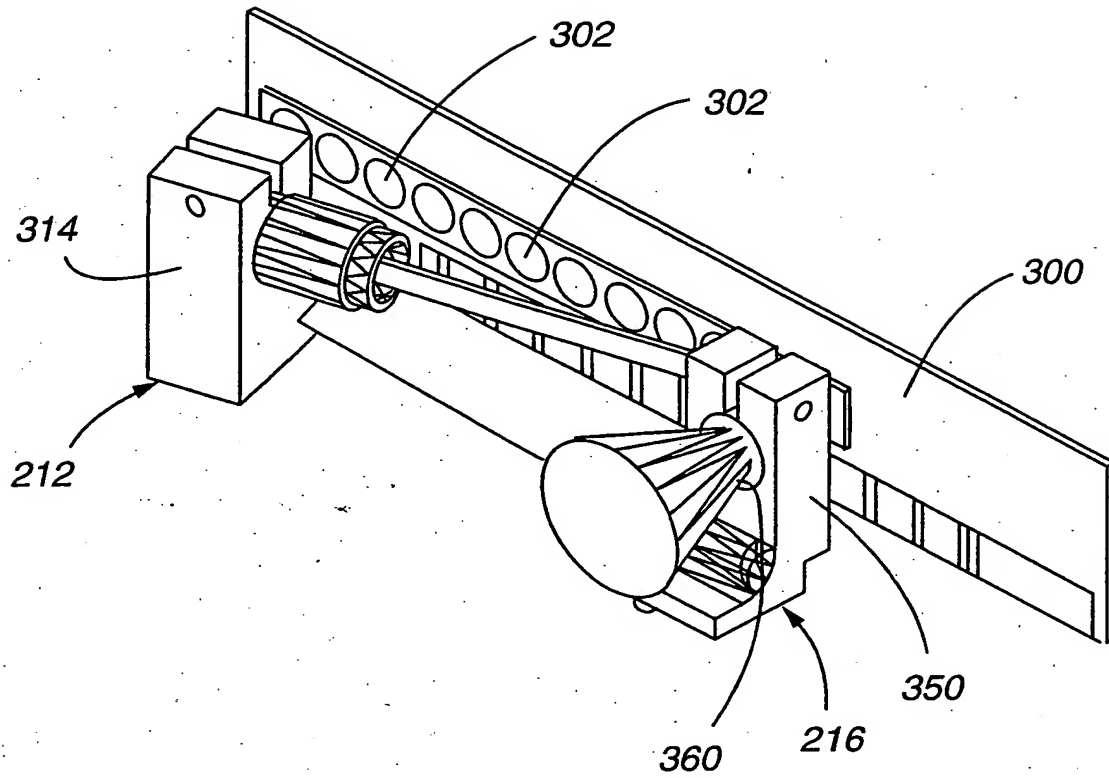


Fig. 19

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2X MAG

COLUMN

0 1

4X MAG

ROW 1	012
ROW 2	543
ROW 3	678
ROW 4	11109

IP Controls

Gain: 2033 2500 3119

Shutter: 2033 2500 3119

Interpolation Type: Subsample:

Coordinated (screen): X Position: Y Position:

Display: ☒ On

1st Filter: Off

2nd Filter: Off

Filter 1: Parameter: Lower Value: Upper Value: Interval: Connectivity 4/8 (8)

Filter 2: Parameter: Lower Value: Upper Value: Interval:

Lookup: X Value: Morphology: Close: ☐

Lower Value: Upper Value:

Coordination In: Z Focus: Y Start: X Start: X Start:

Spots to text:

10X MAG

ROW 1	0123
ROW 2	987654
ROW 3	1011121314151617
ROW 4	282726252423222120191817
ROW 5	282726252423222120191817
ROW 6	45444342414039383736
ROW 7	48474645444342414039383736
ROW 8	65646362616059585756
ROW 9	68676665646362616059585756
ROW 10	8180797877767574
ROW 11	828384858687
ROW 12	91908988

Fig. 20



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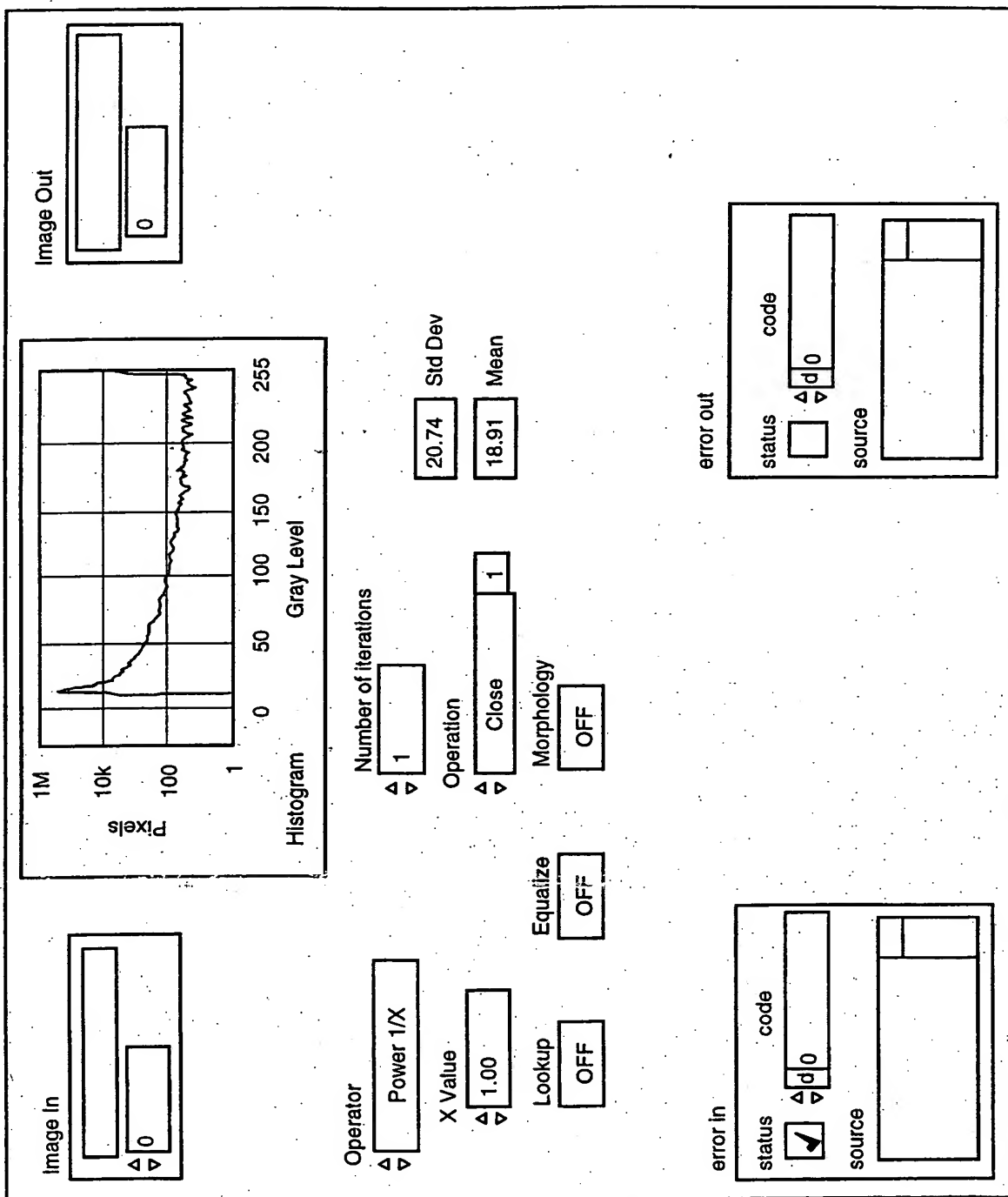


Fig. 21



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INSTRUMENT SETUP

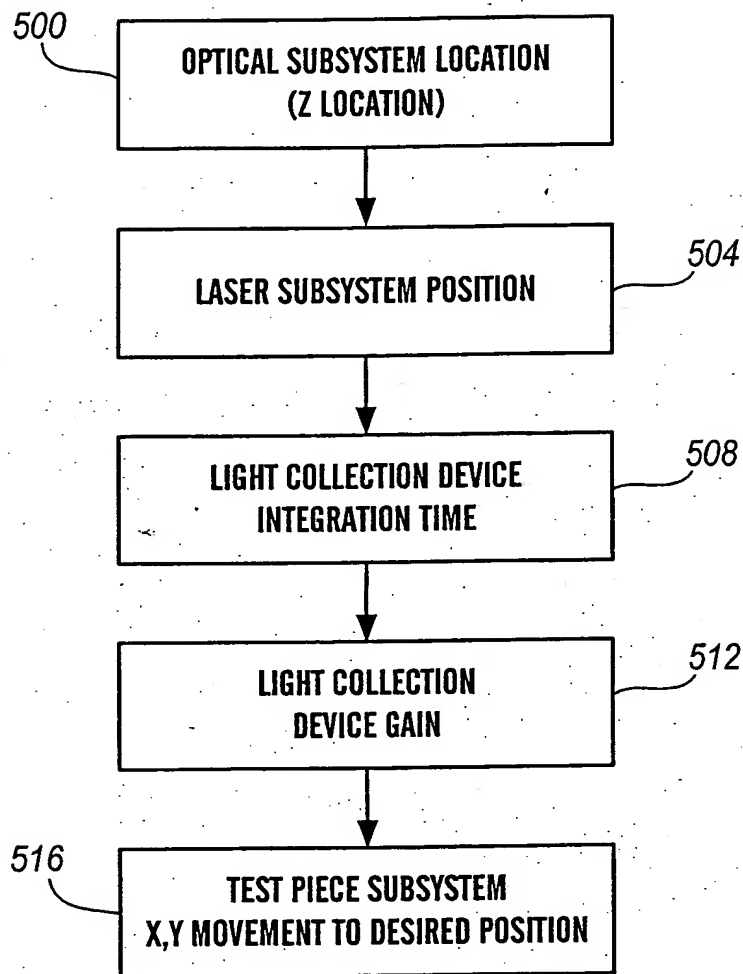


FIG. 22

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TESTING

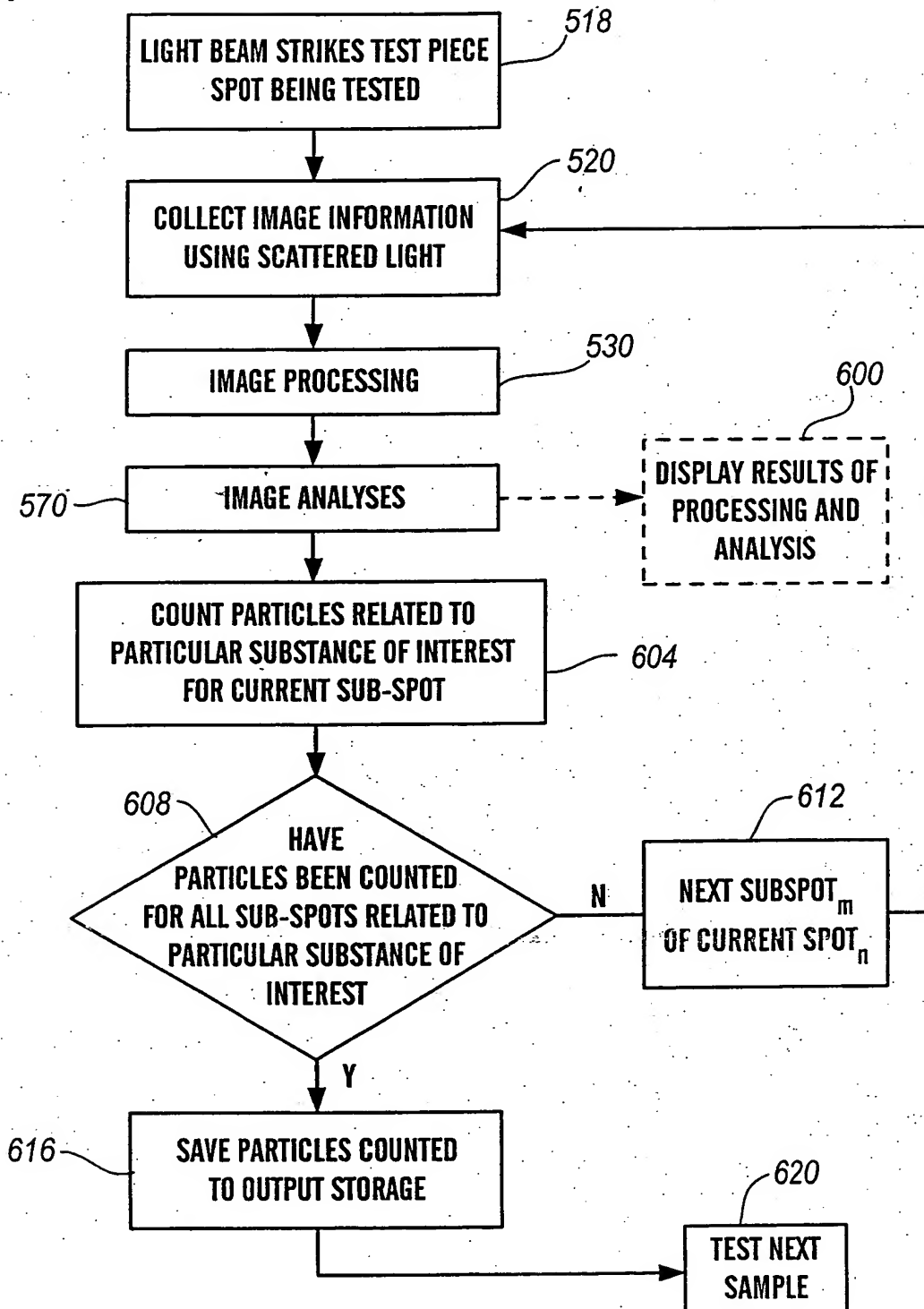


FIG. 23



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IMAGE PROCESSING

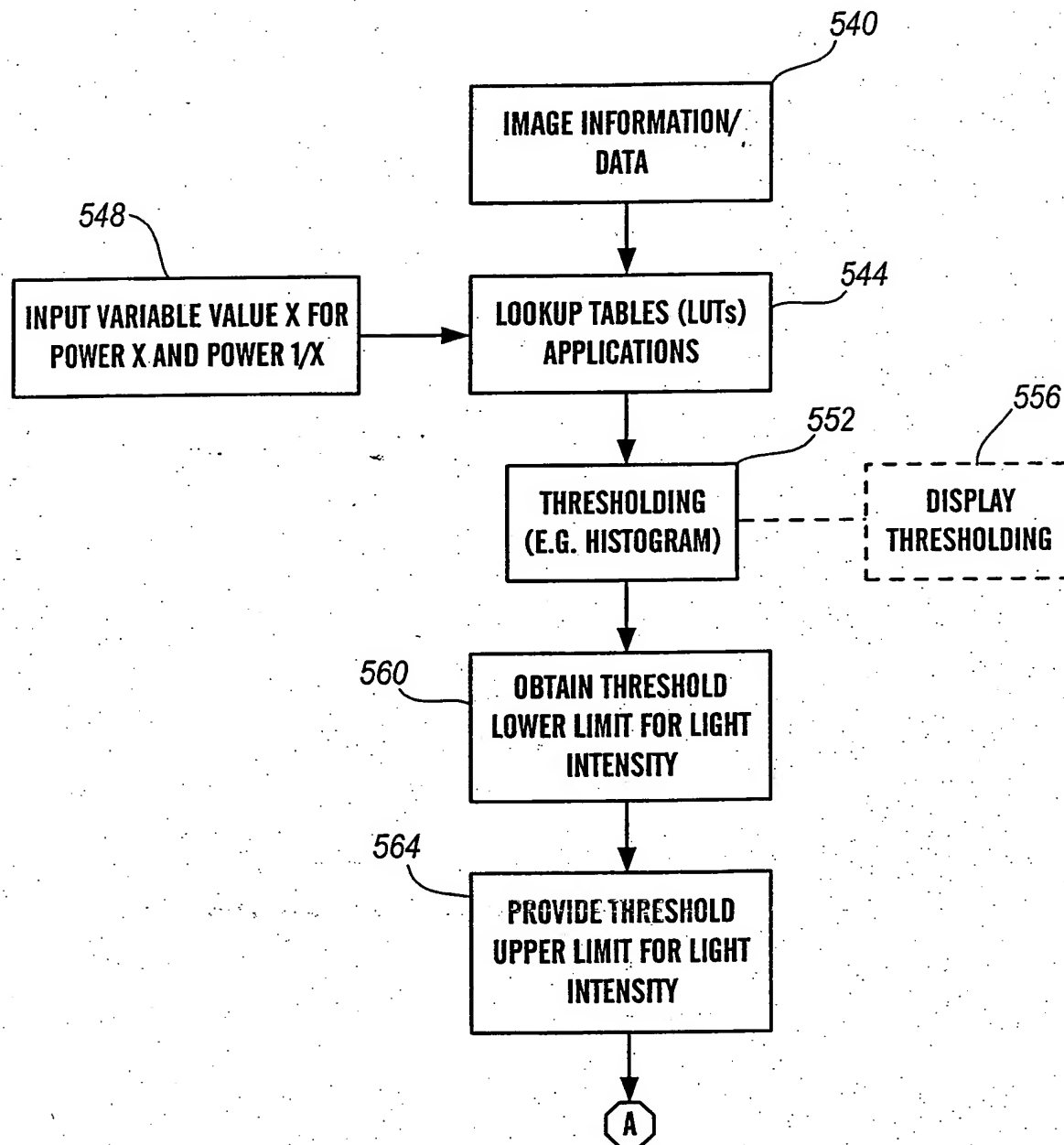


FIG. 24



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IMAGE ANALYSIS

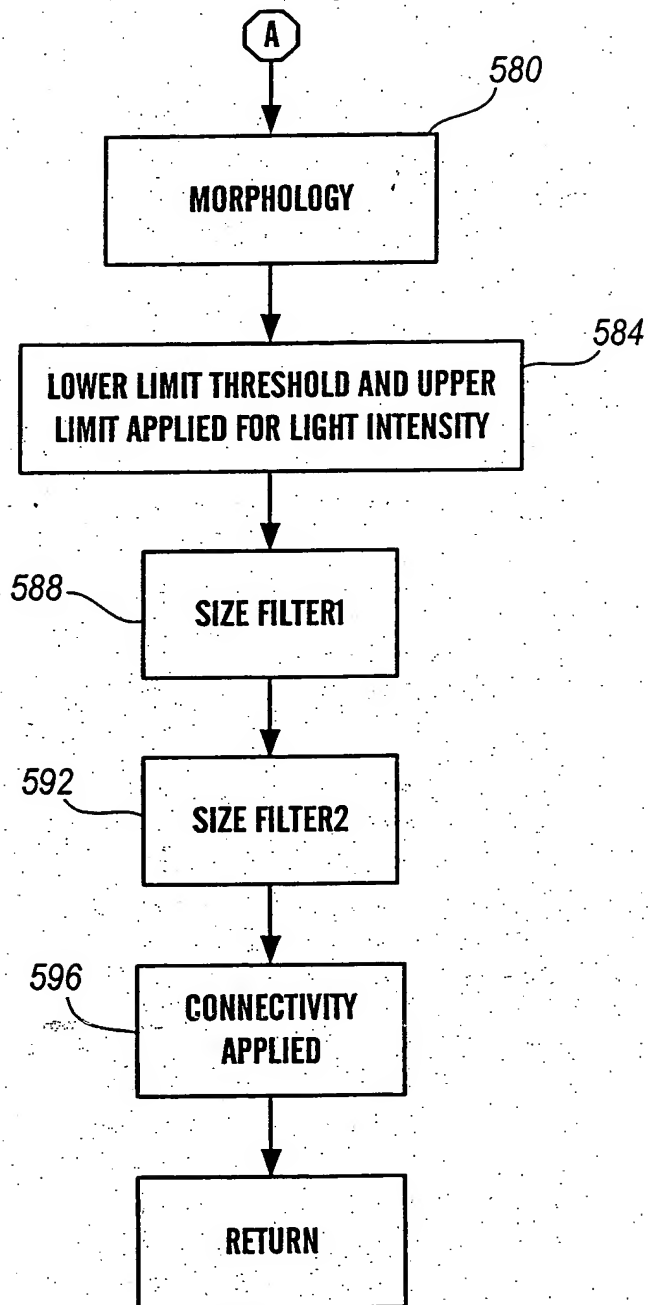


FIG. 25